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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,546	08/21/2008	Richard N. Codos	POLY-26US	2557
26875 7590 03/01/2011 WOOD, HERRON & EVANS, LLP 2700 CAREW TOWER 441 VINE STREET CINCINNATI, OH 45202			EXAMINER NGUYEN, LAM S	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 03/01/2011	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,546	Applicant(s) CODOS ET AL.	
	Examiner LAM S. NGUYEN	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) 4, 5, 8-11, 14, 15 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-7, 12-13, 16-17, 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 20-21 are objected to because of the following informalities: The status of claim 20 should be indicated as “Original”. The status of claim 21 should be indicated as “Withdrawn”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 7, 12, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admission as prior art (FIG. 1) in view of Gielen (US 5771050).

The Applicant's admitted as prior art shown in FIG. 1 and Specification teaches a method of indexing a substrate(15) relative to a printhead (20) between printing consecutive transverse scans of the printhead in the printing of an image on the substrate, wherein the printhead is mounted to a carrier (18) that is transversely moveable across a bridge (17) that extends transversely across a

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printing station fixed along the longitudinal path of a substrate in a printing machine (paragraph [0003]), the method comprising:

indexing the substrate to move the substrate longitudinally an incremental distance relative to and through the printing station (paragraphs [0003]-[0004]: The indexing can be achieved by moving the substrate longitudinally on its support or by moving the bridge relative to the support in an indexing distance);

measuring the actual distance relative to the printing station, moved by the substrate during the indexing (paragraph [0007]: An encoder can be used to measure the actual feed of the substrate relative to the printhead);

determining the difference between the measured actual distance moved by the indexing of the substrate and the incremental distance the substrate was to move by the indexing (paragraph [0008]: The error indicating whether the substrate is fed too far reads on the claimed difference).

The Applicant's admitted as prior art however does not teach, in response to the determined difference, adjusting the longitudinal position of the printhead relative to the carrier/substrate/bridge by the amount of the determined difference, and printing a row of an image across the indexed substrate by scanning

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transversely by moving the carrier across the bridge with the printhead thereon in the adjusted longitudinal position.

Geilen discloses an ink jet printing apparatus comprising an inkjet printhead (FIG. 3, element 12) transversely scanning along a bridge (FIG. 3, element 52) for printing images on a printing medium moving in a longitudinal direction (FIG. 3: The printing medium 50 moves in B direction), means for detecting a deviation/difference/less in the advance amount to determine a correct amount (column 5, lines 35-52), and a motion system (FIG. 3, element 28) for moving the printhead relative to the carriage/medium/bridge (Abstract: An actuator for displacing the printhead relative to the carriage 10. As a result, the printhead moves relative to the bridge and the printing medium) along the longitudinal direction (FIG. 3, direction B and column 7, lines 19-24: The printhead position is controlled to shift in the sub-scanning direction) of the printing medium accordantly to the detected difference to print a row of an image across the printing medium by moving the carrier across the bridge with the printhead at the adjusted longitudinal position (FIG. 4, steps 60-62).

Therefore, it would have been obvious for one having ordinary skill in the art at the time invention was made to modify the prior art printing apparatus admitted by the Applicant to include a motion system for moving the printhead in a

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manner as disclosed by Gielen. The motivation for doing so would have been to obtain a high degree of accuracy in registration as taught by Gielen (column 2, lines 3-5).

• **The Applicant's admitted as prior art also teaches the following claimed inventions:**

Regarding to claim 2: the indexing of the substrate is carried out by driving a feed element an amount predetermined to move the substrate longitudinally the incremental distance through the printing station (paragraphs [0003]-[0004]: The indexing can be achieved by moving the substrate longitudinally on its support or by moving the bridge relative to the support in an indexing distance).

2. Claims 6, 13, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admission as prior art (FIG. 1) in view of Gielen (US 5771050), and further in view of Spinar et al. (US 5126754).

Applicant's admission as prior art, as modified, discloses the claimed invention as discussed above and also teaches a web position measurement device that is an encoder being responsive to the motion of the substrate relative thereto and operable to generate the signal corresponding to an actual distance moved by the substrate through the printing station during the indexing of the substrate (element 26).

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Applicant's admission as prior art, as modified, however does not teach wherein the encoder is connected/fixed to the bridge and wherein the adjusting of the longitudinal position of the printhead is carried out by moving the bridge longitudinally relative to a fixed frame.

Spinar et al. discloses an ink jet printing apparatus comprising a printhead (FIG. 1, element 24) mounted to a carrier (FIG. 1, element 18) transversely moveable across a bridge (FIG. 1, element 14) extending across a printing medium (FIG. 1, element 20) and an encoder connected to the bridge functioning as a measurement position (FIG. 1, element 16), wherein the longitudinal position of the printhead can be adjusted by moving the bridge longitudinally relative to a fixed frame (Fig. 1: The bridge 14 moves in direction Y relative to the frame 10).

Therefore, it would have been obvious for one having ordinary skill in the art at the time invention was made to modify the prior art printing apparatus admitted by the Applicant to include an encoder connected to the bridge as disclosed by Spinar et al. The motivation for doing so would have been to enable sensing the movement and the position of the printhead along the longitudinal direction in order to adjust the printing operation accordantly as taught by Spinar et al. (FIG. 1).

Response to Arguments

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Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. The new ground rejection is made based on the previous cited prior art with new citations and explanations as discussed above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S. NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LAM S NGUYEN/
Primary Examiner, Art Unit 2853

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